

# Spatial Information Awareness Guidelines

Part of Victoria's Spatial Information Management Framework

The Victorian Spatial Council was established under the Victorian Spatial Information Strategy 2004-2007 to support the advancement of Victoria's social, economic and environmental goals through the provision and application of spatial information. It does this by providing a coordinated approach to spatial information policy, development and management, and facilitating opportunities for greater partnership building, collaboration, cooperation and education.



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## VSC CHAIRMAN'S FOREWORD

The Victorian Spatial Information Management Framework consolidates the policies, principles and guidelines for information management that were articulated by both the Victorian Geospatial Information Strategy 2000-03 and the Victorian Spatial Information Strategy 2004-07.

The Framework aims to support the effective use of spatial information to support Victoria's social, environmental and economic goals through the establishment of institutional arrangements for developing spatial information; creating and maintaining spatial information; making spatial information accessible and available; and strategic development of technology and applications.

The custodian of spatial information is at the heart of the Spatial Information Management Framework. Its policies set out the minimum requirements for custodians to manage their datasets, while a set of underlying principles provide the foundation for enabling them to maintain these datasets and ensure all Victorians are aware of and have ready access to them.

These principles address all elements of the Spatial Data Infrastructure of Victoria: *governance, custodianship, framework information, business information, quality, metadata, awareness, access, pricing and licensing, and privacy.*

The Framework is accompanied by ten Guideline documents to assist custodians in the implementation of these policies and principles. These *Spatial Information Awareness Guidelines* provide an introduction to Victoria's approach to awareness: how it is defined, what it comprises, what awareness tools exist and how they may be sourced and used.

The Guideline documents are also intended to be accessible to the general reader by setting out fully the basis on which the Framework will be delivered.

The Victorian Spatial Council is Victoria's principal coordinating body for spatial information, with a mandate to develop policy and promote best practice for spatial information management. These *Spatial Information Awareness Guidelines* are a key contributor to the Spatial Information Management Framework's objective to make spatial information accessible and useable. It is intended that they will be informed by practical experience, and contributions to future editions are welcome from practitioners and readers alike.



Olaf Hedberg

Chair, Victorian Spatial Council

# INTRODUCTION

## The Spatial Information Management Framework

The Spatial Information Management Framework is Victoria's best practice approach for establishing and retaining consistency in the management of spatial information across all organisations – whether public or private – with a role or interest in doing so.

Its objective is that spatial information be made as accessible as possible.

The Victorian Spatial Council has endorsed the development of the Framework because a coordinated approach to information management will provides the greatest opportunity to:

- reduce duplication of datasets, systems and processes, and increase consolidation, leading to more efficient spending on spatial information
- optimise investment and develop partnerships across the spatial information community (public, private and academic sectors)
- deliver higher quality datasets
- improve access to spatial information

Management of spatial information by participants in the Framework should facilitate its effective use, based on four key principles: that the spatial information will:

- represent the definitive and authoritative source of the data it contains
- be managed by designated custodians
- be accessible and available to all members of the community, except where confidentiality and commercially sensitive conditions apply
- be able to be combined with other spatial data for the purposes of analysis and decision making

The Spatial Information Management Framework provides a holistic approach to managing spatial information in Victoria, encompassing the

1. **institutional arrangements for developing spatial information;**
2. requirements for **creating and maintaining spatial information;**
3. mechanisms for **making spatial information accessible** and available; and
4. **strategic development of technology and applications.**

Together, these components of the Framework create Victoria's Spatial Data Infrastructure (SDI).

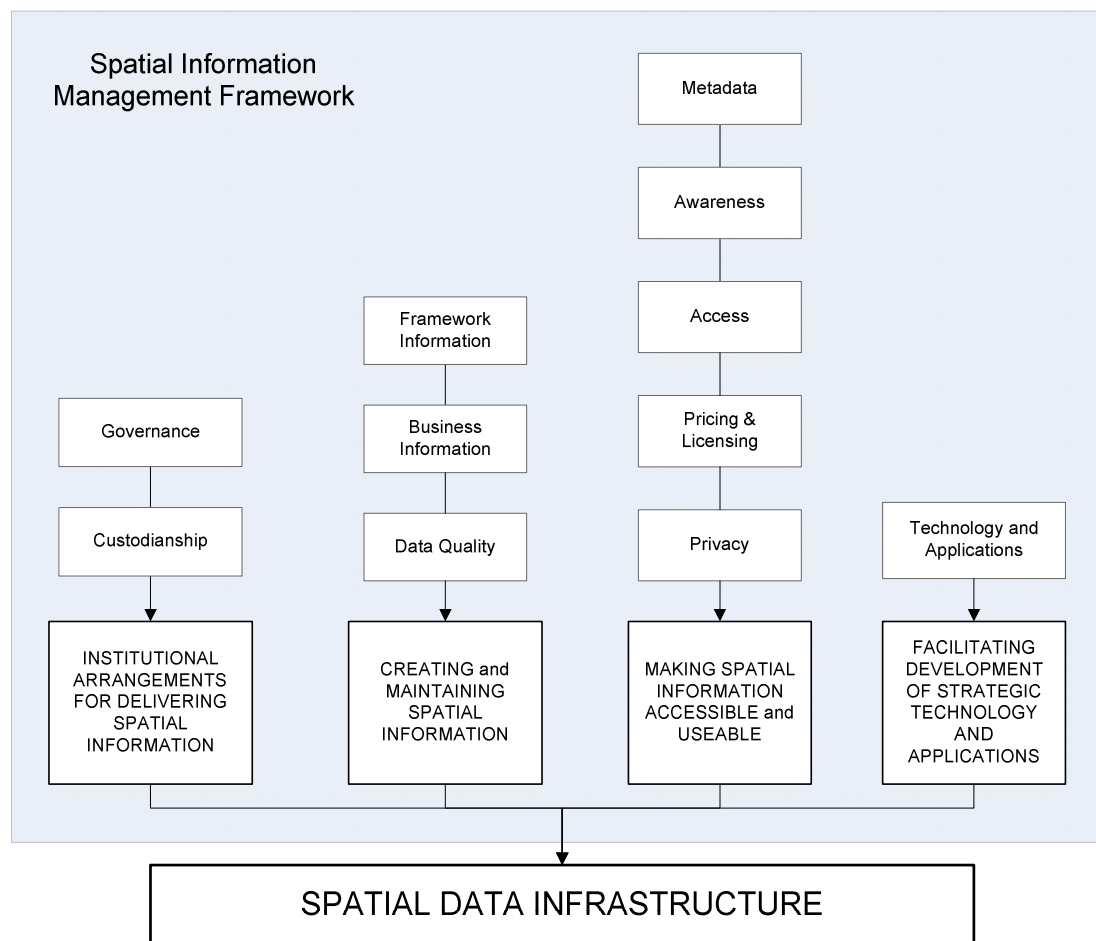
The SDI is an enabler – a mechanism for making data available and for sharing and exchanging it to enhance the achievement of social, environmental and economic goals. Behind it are the myriad activities that create the conditions in which that sharing and exchange can take place, ie the development of the data, technology, policies, institutional arrangements and capacity building (ie equipping people to use the technology and data).

The Framework allows for the management of these elements in an integrated way to provide an environment for the effective use of spatial information.

This integrated approach is illustrated in Figure 1.

The Framework is supported by policies and guidelines that provide the formal requirements for implementing it, and tools and resources to support those responsible for that task.

**Figure 1: The Victorian Spatial Information Management Framework**



Separate Guidelines have been prepared for the following components of the Framework:

- Governance
- Custodianship
- Framework Information
- Business Information
- Data Quality
- Metadata
- Awareness
- Access
- Pricing and Licensing
- Privacy

The purpose of the Guidelines is to explain the policies and principles outlined in the relevant component of the Framework, and to describe activities that will support their application in implementing it.

It is envisioned that these Guidelines will vary over the life of the Framework as new material, policies, and procedures are developed, and as new issues arise.

## **This Document**

It is intended that the Guidelines be read in conjunction with the document *Victoria's Spatial Information Management Framework and Directory of resources*, also produced by the Victorian Spatial Council.

These *Spatial Information Awareness Guidelines* have four sections.

- Part A provides an overview of the spatial information management principle of awareness.
- Part B outlines the responsibilities of custodians and the wider spatial information community in raising awareness
- Part C describes a method for engaging with stakeholders to raise awareness about spatial data
- Part D provides a range of examples of tools and resources that can support awareness raising

# THE GUIDELINES

## PART A – CONTEXT AND PURPOSE

The value of spatial information lies in its use; one of the prerequisites for use is the knowledge that it exists. This knowledge is made possible as a result of ‘awareness’.

One of the requirements of the Spatial Information Management Framework goal of making spatial information accessible is that:

*it must be easy to identify who has [spatial information], whether it is fit for the purpose at hand, how it can be accessed and whether it can be integrated with other information.*

Without awareness, this condition cannot be met.

However, as the statement above indicates, awareness is not simply ‘knowledge’ that spatial information exists – it also involves ‘appreciation’, ‘recognition’, ‘discernment’, or ‘comprehension’; in other words ‘understanding’ about how to make best use of it.

Custodians are responsible for ensuring that users are able to gain sufficient awareness of the spatial data<sup>1</sup> they manage and the purpose for which it was created to achieve such a level of understanding.

### Spatial Information Awareness Policies

Custodians are at the heart of the Spatial Information Management Framework. Their role is to manage the spatial data for which they are responsible, incorporating its description, quality, metadata, pricing and licensing arrangements, as well as awareness.

The starting point for making people aware of spatial data is defining it and publishing a record of its existence, including how it can be acquired. Custodians should also engage with users in the development of their spatial data.

These goals are expressed in the policy that has been set out in the Spatial Information Management Framework:

Custodians will publish metadata and data product specifications, and make their spatial data available through the Victorian Spatial Data Directory.

Custodians will consult with users regarding fit-for-purpose and ongoing development of their product.

### Scope of Awareness

In these Guidelines, five aspects of awareness are considered:

- Communication and engagement
- Describing datasets – through product specifications/descriptions and metadata
- Establishing quality levels for datasets in conjunction with users
- Putting in place change management process to ensure users understand the implication of and can contribute to new developments or changes to datasets

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1. In this document, the term ‘spatial data’ is used when referring to the responsibilities of custodians; ‘spatial information’ is used as a general descriptive term.

These *Spatial Information Awareness Guidelines* should be read in conjunction with the other Guidelines that form part of the Spatial Information Management Framework. The effectiveness of the custodian's responsibilities as set out in these other Guidelines rely on the awareness of users about what data is available and what they can expect from custodians in managing and delivering that data.

'Awareness' of spatial data and its benefits is achieved through:

- publication of directories – that describe spatial data, how it can be used, and what is available;
- documentation of datasets and publication of metadata – that describe the content and quality of spatial data and facilitate 'discovery';
- provision of access infrastructures or distribution mechanisms – that ensure that spatial data is easy to obtain and use; and
- promotion, education and engagement – that publicise the availability of spatial data, and educate current and potential users through formal education, professional development and other forms of training.

## **Purpose of the Awareness Guidelines**

Within the scope of 'awareness' set out above, the purpose of these Guidelines is to:

- outline the role of custodians and the wider spatial information community in relation to awareness
- explain engagement and planning for engagement – a practical approach to raising awareness
- identify a range of tools currently available that support raising awareness

The education of potential users in how to use spatial information is outside the scope of these Guidelines.

## PART B – RESPONSIBILITIES FOR AWARENESS

### The Custodian

Custodianship of spatial data ‘is the act of ensuring appropriate care in [its] collection, storage and maintenance.’

Under the Spatial Information Management Framework, all spatial data is managed by identifiable custodians, who are responsible for maintaining and developing the data they are responsible for, ie preparing and keeping up to date a data product specification (or equivalent descriptive documentation of the dataset) and associated metadata; assessing data quality and developing quality standards in consultation with users of the data; and establishing appropriate arrangements for access to the dataset.

The following responsibilities have a direct relationship with awareness – as defined on page 8 – and are described further below.

- Prepare a data product specification
- Develop and maintain metadata
- Assess Quality
- Manage changes to datasets

#### *Prepare a Data Product Specification/Description*

A data product specification or description defines the product, including identifying its custodian; its geographic extent, content, structure, and reference systems; how it was produced or acquired; how often it is updated; and in what form it is made available. The data product specification/description will also set out the data quality statement (see below), and pricing and licensing conditions.<sup>2</sup>

#### *Develop and maintain Metadata*

Metadata is a structured form of the product specification/description. Custodians are required to ensure that metadata is created and maintained as an integral part of datasets and associated products. As a minimum, they should create and maintain the core metadata elements specified in the ANZLIC Metadata Profile (version 1.1, August 2007), or as an interim alternative, the core (Page 0) metadata elements as defined in the ANZLIC Metadata Guidelines (version 2, February 2001). These are defined in the *Spatial Information Metadata Guidelines*.

Metadata is the key management mechanism for Victoria’s spatial information environment, providing fundamental management tools at three levels:

- *Discovery*: enabling users to locate and evaluate data.
- *Management*: enabling custodians to better manage their spatial data.
- *Utilisation*: enabling users to access and manipulate data by means of automated/distributed systems.

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2. An international standard for product specifications has been adopted in Australia and New Zealand as *AS/NZS ISO 19131:2008 Geographic information - Data product specifications*. The new standard is now beginning to be implemented in several places overseas, but as yet there has been no direction set or activity undertaken within Australia.

In the interests of consistency and interoperability, the new standard will need to be implemented within Victoria. In 2009, the metadata systems managed by the Department of Sustainability and Environment are being reviewed and modified to suit the new international standard for metadata. Concurrent transformation to the new product specification standard presents opportunities to design systems and processes to take advantage of the complementary nature of product specifications and metadata, and hence to ensure that product specifications and metadata can be created and maintained with optimum efficiency and with a minimum of wasteful duplication of effort. Further Guidelines on this subject will be published as the initiative proceeds.

'Discovery' is closely associated with awareness. Metadata for discovery/awareness should provide the user with the capacity to assess the data's suitability for his/her purpose.

A minimum standard set of metadata should be provided to facilitate discovery/awareness of spatial data. This minimum standard represents the basic information required to convey the nature and content of the data and provide a point of contact to obtain further advice if needed.

The required standard is the ANZLIC Core Metadata Elements, the key elements of which are summarised in Table 1 below.

**Table 1: Core Metadata Elements**

Metadata element	Description
Dataset Title	The name of the dataset.
Custodian	The organisation responsible for the dataset.
Description Abstract	A short description of the contents of the dataset.
Search Word(s)	Words likely to be used by a non expert to look for the dataset.
Geographic Extent	The extent of the geographic coverage of the dataset.
Data Format Type	The format(s) in which the dataset is available, showing at least whether the dataset is available in digital or non-digital form
Access Constraint	Any restrictions or legal prerequisites applying to the access and use of the dataset
Currency	The time period covered by the contents of the dataset
Contact Organisation	Ordinary name of the organisation from which the dataset may be obtained
Contact Position	The relevant position in the Contact Organisation
Contact telephone	Telephone of the Contact Position
Email Address	Email Address of the Contact Position

Details about Victoria's Framework and Business Information are published in product descriptions and/or metadata that can be accessed through the Victorian Spatial Data Directory and DataSearch Victoria (see page 19 for further details), both accessible via <http://www.land.vic.gov.au/spatial>.

For further details on metadata, refer to the *Spatial Information Metadata Guidelines*.

### *Assess Quality*

One of the purposes of describing the quality of spatial data is to enable users to select that which is best suited to their needs. It is therefore an important part of raising their 'awareness' and 'understanding' as defined by these Guidelines.

Under the Spatial Information Management Framework, custodians should consult with users in defining quality, inform them of and involve them in projects to improve quality, and publish statements about the quality standard of the data.

The *Spatial Information Quality Guidelines* define the role of the custodian as being to consult stakeholders and promulgate minimum and actual quality standards for datasets, by:

- consulting users in relation to their specific data quality needs and issues
- identifying minimum quality standard requirements of users in relation to datasets
- undertaking a 'gap analysis' between existing data quality standards and those of users
- assessing an organisation's data quality program
- informing stakeholders and industry organisations of an organisation's quality program

### *Change Management*

The management of changes to spatial data is an important part of maintaining stakeholders' awareness of the status of a dataset or data model, or any improvements or updates that may be forthcoming or have occurred.

What needs to be considered when making a change?

For example, data models have built into them relationships and dependencies that can be affected when there is a change, eg attributes assigned to tables or columns. Users of the dataset may have built their own dependencies or relationships into their own processes and applications that could be affected by changes to data models or structures.

Given the potential for impacts on the users of data, some form of coordination would be required to implement any changes – the appropriate level will depend on the extent of the change and the impact. This coordination may be referred to as 'change management' – the process of managing the impact a change may have on the data and its dependencies, and hence on users.

The communication associated with change management may be required between

- the custodian of the dataset
- administrators of the associated hardware and software that facilitate use of the data
- owners of the applications that use the data
- data users

Stakeholders should be engaged throughout the process of change. This will require planning and communication. For an example of how to plan and undertake the engagement, see Part D – Engagement Planning, and in particular pages 15-16 and 18.

## **The spatial information community**

Victoria's spatial information governance framework supports awareness in a number of ways.

All sectors have a role in setting Victoria's strategic direction for spatial information and implementing policies and standards for the whole spatial industry and whole of Victorian Government.

These are set out in the *Spatial Information Governance Guidelines*. For the purposes of this document, the role of the Victorian Spatial Council is highlighted.

The Victorian Spatial Council (VSC) was established in September 2004 to coordinate spatial information development in Victoria. It does this by providing a coordinated approach to spatial information policy and management, as well as facilitating opportunities for a greater strategic focus on spatial information development, including greater partnership building, collaboration, cooperation and education.

At it relates to communication and awareness, the Council's objectives include:

- Promoting spatial initiatives and providing a forum for examining issues
- Establishing effective channels of communication across the spatial sector, including promoting interaction among Council members, federal, state and local governments, professional associations, and the public and private sectors
- Building networks of people and technology to share spatial information and to continually improve its usefulness and accessibility
- Promoting the development of best practice and standards for Spatial Information Management

The VSC achieves its objectives through facilitation, advocacy, and communication, including:

- being a sponsor and/or champion of major spatial information initiatives
- publishing policy statements, guidelines, discussion papers

- running forums and briefing key decision makers in business and government

In 2009, the Council launched its own web site to keep the spatial information community informed about its activities and the policies and tools to support spatial information management. Through the web site, and its magazine Landmark (see page 21) it will also publish stories about how spatial information is being used and developed in Victoria and elsewhere.

The Council members represent the peak spatial information associations in Victoria.

Through their own activities and as members of the Council, these bodies keep their constituents informed about the strategic direction for spatial information in Victoria and encourage the participation of their members in Council activities.

## PART C – ENGAGEMENT PLANNING

This part describes what might be considered in undertaking activities that *result* in raising awareness – or ‘engagement’ with users<sup>3</sup>.

Engagement should cover the full spectrum of interactions with the user community and other stakeholders. To that end, a range of approaches should be adopted:

- *Informing* users and potential users of the direction of the dataset.
- *Consulting* them as part of a process to develop policy, or building awareness and understanding.
- *Involving* them through a range of mechanisms to ensure that issues and concerns are understood and considered as part of the decision-making process.
- *Collaborating* with them by developing partnerships to formulate options and provide recommendations.
- *Empowering* them to make decisions and to implement and manage change

While the approach chosen for each group of stakeholders will be based on what is appropriate to the circumstances, the following principles will guide the way in which this takes place:

- provide accurate, timely, relevant and understandable information about policies, programs, services and initiatives
- use a variety of methods to communicate
- ensure information is publicly accessible through websites or other means
- engage with stakeholders when establishing priorities, developing policies, and planning programs and services
- ensure that engagement planning, coordination and implementation are integral to policies and initiatives
- foster a collaborative approach to engagement with stakeholders
- ensure opportunities are available for stakeholders to provide feedback on major policies, programs, services and initiatives, and that such feedback is considered in reviews or evaluations

### Planning the engagement

Appropriate planning is the key to determining the goals of the engagement and setting out the activities that will result in greater awareness.

Custodians should attempt to adopt a holistic approach to engagement, involving:

- Incorporating engagement planning into dataset development and management activities
- Developing engagement processes
- Developing promotional materials

Questions that could be used as a part of a ‘communications checklist’ for developing a comprehensive engagement plan are set out in Table 2.

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3. ‘Engagement’ is described as ‘a generic, inclusive term to describe the broad range of interactions between people. It can include a variety of approaches, such as one-way communication or information delivery, consultation, involvement and collaboration in decision-making, and empowered action in informal groups or formal partnerships’.

**Table 2: Stakeholder Engagement Plan – communications checklist**

- Who are the stakeholders, what are their interest in your dataset and what power do they have or what potential impact can they have on it?
- Has the reason why the stakeholder is interested in the project been clearly identified?
- Has the stakeholder’s likely impact on a project, either positive or negative, been identified?
- Has the stakeholder’s importance and ability to influence the project (both now and during the lifespan of the project) been identified?
- What is the appropriate strategy to engage with each stakeholder or group for a positive outcome?
- What are you actually going to do to engage your stakeholders? What action are you going to put in place, who is going to do it, what resources are you going to need and when is it going to be done? How will you know if you are successful?
- Have the project dependencies, both within the project and external to it, been identified in terms of stakeholders?
- Has time been allowed for negotiation and alignment of project and stakeholder expectations?
- Has the purpose of communication / type of engagement been identified including key messages?
- Has the communication / engagement methodology been identified?
- Have the resources (financial and human) been identified to implement communication approach?
- Do staff (or contractors) have the appropriate skills?
- Is there an owner for each task?
- Has the timeframe and completion date been identified?
- Has the reporting framework been identified?
- Has the method for assuring the quality of the communication approaches been identified?
- Have the actions from the communication plan been included in the project schedule?
- Has a plan for evaluating the communications been developed?

Other elements of an engagement plan could include:

- The costs of stakeholder engagement to be incurred and included in the budget
- Significant stakeholder events to be included in the project schedule
- The time (effort) to be spent on engagement in determining resource availability and its effect on the project schedule
- Identification of the Risks involved in dealing with stakeholders
- Organisation of resources to optimise communication and efficiency

Even for simple projects, planning to engage stakeholders will be required. A template has been developed for use in these circumstances – as set out in Table 3 (page 17).

The Department of Sustainability and Environment in Victoria has developed a comprehensive approach for the development of successful engagement planning, including definitions, templates, tools and other resources. A range of documents are available from the Department’s web site via

<http://www.dse.vic.gov.au/dse/wcmn203.nsf/childdocs/-0B996EB412EAB883CA2570360014F01A?open>

## Engaging Stakeholders in Change Management

The following steps should be considered in planning and undertaking change management to ensure that stakeholders are engaged throughout the process:

- Plan the change
- Document it
- Notify/communicate the proposed change to stakeholders
- Make the changes

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**Spatial Information Management Framework**

- Undertake testing to ensure impacts, intended or unintended, can be addressed prior to finalising the change
- Confirm success of the change
- Sign off the change and implement (eg switch to production systems)

Communication with users should continue throughout the process.

The list above provides an example of what might be considered; the specific requirements for change management should be developed as appropriate to the circumstances.

A template that could be used for change management planning, and as part of the Engagement process outlined in Part C, is provided in Table 4 on page 18.

**Table 3 Simple engagement plan**

Stakeholder	Interest in Project	Influence H, M, L	Engagement Approach	Tools/Activities	Resources Required	Key Messages	Who	When

*Engagement Approach:*

**INFORM**

*We will keep you informed.*

**CONSULT**

*We will keep you informed, listen to and acknowledge concerns and provide feedback on how your input influenced the decision.*

**INVOLVE**

*We will work with you to ensure that your concerns and issues are directly reflected in the alternatives developed and provide feedback on how your input influenced the decision.*

**COLLABORATE**

*We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.*

**EMPOWER**

*We will implement what you decide.*

*Tools:*

Brochure  
Web site

Meeting  
Fact sheets

Email

Focus Group

Newsletter

Workshop

‘One-on-one’

*Source: adapted from DSE community engagement framework*

**Table 4 Change Management Plan**

**1. Impact Assessment**

*Complete the following table to indicate the scope of impact to key stakeholders*

Area Impacted	Type of impact*	Extent of Impact H, M, L	Date of impact	Numbers of impacted area	Date/s of change activities

\*Select from the following:

A = Change to owned assets

P = Change to processes

PB = Change to perceived benefits

F = Change to finance

JT = Change to job tools

PE = Change to performance expectations

L = Change to livelihood

LC = Change to living conditions

WC = Change to working activities

**2. Change Management Strategy**

*Use the following table to outline how stakeholders will be managed through the change*

Area Impacted	Change Management Responsibility*	# Days Commitment to Participate in Change Activities	Training? Y or N	Mentoring? Y or N	Communication? Y or N

\*Select from the following:

C = Consultant

LM = Line Manager

P = Project

*Source: Department of Sustainability and Environment Change Management Plan*

## PART D – RESOURCES THAT CAN SUPPORT AWARENESS RAISING

The previous pages of these Guidelines have set out responsibilities of custodians with regard to awareness and undertaking engagement activities to create awareness among users about spatial data.

This part outlines a number of tools that are available to assist in raising awareness.

There are a number of other resources available that support awareness raising; they can be used as part of a wider engagement strategy, or on their own. These fall under the categories of ‘search and discovery’, ‘product catalogues’, ‘publishing maps, imagery and data’, and ‘bulletins, newsletters, conferences and forums’.

### Search and Discovery

- *Metadata*

Metadata is ‘data about data’.

It is structured information that describes data or services. The information in the metadata enables people to find, manage, control, and understand their data assets.

Metadata for spatial data is required for a range of purposes. It is used to provide, among other things:

- detailed description about data collection methods, integration and analysis techniques applied to various components of source data to support the preparation of scientific reports;
- information about the accuracy of source datasets, processing history, and archival procedures to effectively manage and utilise data within custodian organisations;
- information about projections, scale, and a data dictionary to accompany data transfers to other organisations;
- adequate descriptions of the content, quality and geographic extent of datasets so potential users of existing data can assess its suitability for their purposes; and
- summary descriptions of content and quality as well as contact details for inclusion in directory systems.

Further guidance on the use and compilation of metadata is available from the *Spatial Information Metadata Guidelines*.

- *Directories – DataSearch, Victorian Spatial Data Directory*

The **Victorian Spatial Data Directory** (VSDD) contains metadata that describes datasets that originate in or may be of use in Victoria. It includes both current and archived data. Contribution and maintenance of entries is undertaken by the custodian. Data is described according to the ANZLIC Metadata Standard.

The VSDD is available on-line via <http://www.land.vic.gov.au/Land/lcnlc2.nsf/childdocs/-418EED712A81C5AE4A256A0A0015CDC1-F31E2DE1F7D75F504A256A4F0017DA3E-08C003561C79F2E74A256A5700195EFB-FA0ECCC47F731782CA256E55001C0EE0?open>

**DataSearch Victoria** is an on-line search and discovery tool for spatial datasets that allows the user to search by geographic extent and data theme, preview the dataset selected (which can be scaled to show a sample), read the metadata, and view the sample over a backdrop orientation layer.

It is available via <http://services.land.vic.gov.au/SpatialDatamart/dataSearch.html>

## Product Catalogues

- *Vicmap Product Catalogue*

The Vicmap Product Catalogue is a series of product sheets, each of which describes:

- the key benefit to customers in using Vicmap data with their business information
- coverage, currency, scale of capture, Coordinates, Datum and Format
- where to buy the product, and
- case studies to help realise how to use the data

Product Sheets can be downloaded individually or as a compilation from

<http://www.land.vic.gov.au/Land/lcnlc2.nsf/childdocs/-418EED712A81C5AE4A256A0A0015CDC1-F31E2DE1F7D75F504A256A4F0017DA3E-DA7CA8ABA02855EB4A256A50000DE72D-ECC7CBCD56866BE5CA25721000229570?open>

- *Corporate Spatial Data Library*

The Department of Sustainability and Environment and Department of Primary Industries Corporate Spatial Data Library contains over 130 significant datasets that support natural resource planning and management in Victoria.

The catalogue is available on-line via <http://www.land.vic.gov.au/cgdl>

## Publishing Maps, Imagery and Data on-line

The Department of Sustainability and Environment maintains a significant range and volume of spatial data relating to natural resource and land use in map, imagery (aerial photography and satellite) or digital data form.

Details of the data and how to acquire it are available on the Department's web site at:

<http://www.dse.vic.gov.au/DSE/nrenptm.nsf/childdocs/-1D73E63770CCC7ECCA2571A3000BAFB4?open>

Interactive maps are available via

<http://www.dse.vic.gov.au/DSE/dsencor.nsf/LinkView/836EE128E54D861FCA256DA200208B945FD09CE028D6AA58CA256DAC0029FA1A>

The Department of Primary Industries maintains *Victorian Resources Online* – a 'gateway to a wide range of natural resources information and associated maps' at <http://new.dpi.vic.gov.au/vro>

Other useful sites include:

- The Victorian Water Resources Data Warehouse – <http://www.vicwaterdata.net/vicwaterdata/home.aspx>
- Planning related data – <http://www.dse.vic.gov.au/DSE/nrenpl.nsf/childdocs/-9F889687EADAE3B2CA2572DA007F071B-637BF964456420E0CA2575E80005F2A4?open>

There will be many others not listed here – *please contact the Victorian Spatial Council at the addresses inside the front page if you would like your resources publicised in these Guidelines.*

## Bulletins, Newsletters, Conferences and Forums

Bulletins and Newsletters are a valuable source of material about new products, how spatial information is used, and events that are on throughout Victoria.

- *Landmark*

The Victorian Spatial Council publishes its magazine, Landmark, three times a year. It showcases events, new developments and news from the spatial information community in Victoria, nationally, and internationally.

Landmark is available in both printed and digital form. The digital edition is available via

<http://www.victorianspatialcouncil.org/index.php>

- *Vicmap Bulletin*

DSE publishes the Vicmap Bulletin to keep Vicmap users informed about changes to Vicmap products.

It can be accessed on line at:

<http://www.land.vic.gov.au/Land/lcnlc2.nsf/childdocs/-418EED712A81C5AE4A256A0A0015CDC1-F31E2DE1F7D75F504A256A4F0017DA3E-DA7CA8ABA02855EB4A256A50000DE72D-11D83403BF4F9D2DCA256E37000E719B?open>

Conferences and seminars are also valuable means for raising awareness. Three examples are Newtech, the GNSS Reference Group and Victorian Spatial Council forums.

- *Newtech*

Newtech rural and regional conferences are designed to provide accessible, stimulating and valuable learning and business opportunities for rural and regional Victorians involved in the use and development of land management and spatial information.

They are held twice a year, with details published on-line via:

<http://www.land.vic.gov.au/Land/lcnlc2.nsf/childdocs/-418EED712A81C5AE4A256A0A0015CDC1-F31E2DE1F7D75F504A256A4F0017DA3E-2A2866093C9665A14A256A5700195F22-818E3D4EB1A006B9CA256E7C000176EF-03929E08A65FD47C4A256A6C0006E54F?open>

- *GNSS Reference Group*

The GNSS Victorian Reference Group provides opportunities to raise sector-based interests on CORS<sup>4</sup> network and service development.

Further information is available via

<http://www.land.vic.gov.au/Land/lcnlc2.nsf/childdocs/5DF1E2E5B878F6634A256A0A001DAC5C?open>

- *VSC Forums*

The Victorian Spatial Council runs forums each year to stimulate conversations on key spatial information related issues of the day.

<http://www.victorianspatialcouncil.org/>

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4. GNSS = Global Navigation Satellite Systems; CORS = Continuously Operating Reference Stations